

Nuclear Transmutation Energy Research
Center of Korea (NUTRECK)

Seoul National University, Seoul, Korea

The logo for NUTRECK is a circular emblem. It features a blue laurel wreath border. Inside the wreath, there are three red arrows forming a clockwise cycle. In the center of the cycle is a blue atomic symbol with a red nucleus. The word "NUTRECK" is written in a light blue, semi-circular arc at the top of the emblem.

A 3D VIRTUAL REALIZATION
OF A NUCLEAR TRANSMUTATION REATOR – PEACER

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K. W. Yi, J. M. Kang, S. H. Jeong and H.W. Lee

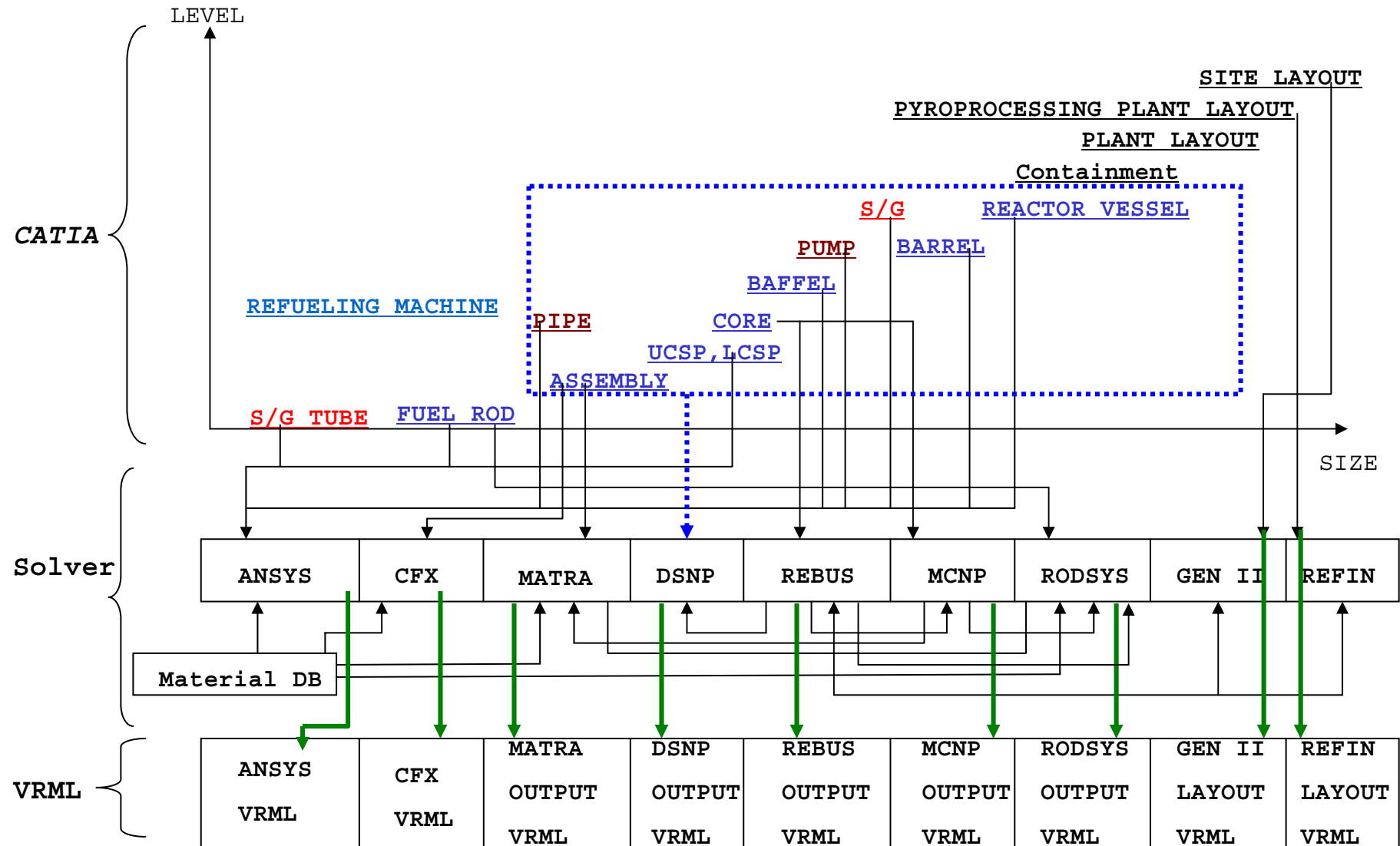
The 1st COE-INES International
Symposium, INES-1 October 31 - November 4, 2004
Keio Plaza Hotel

Outline

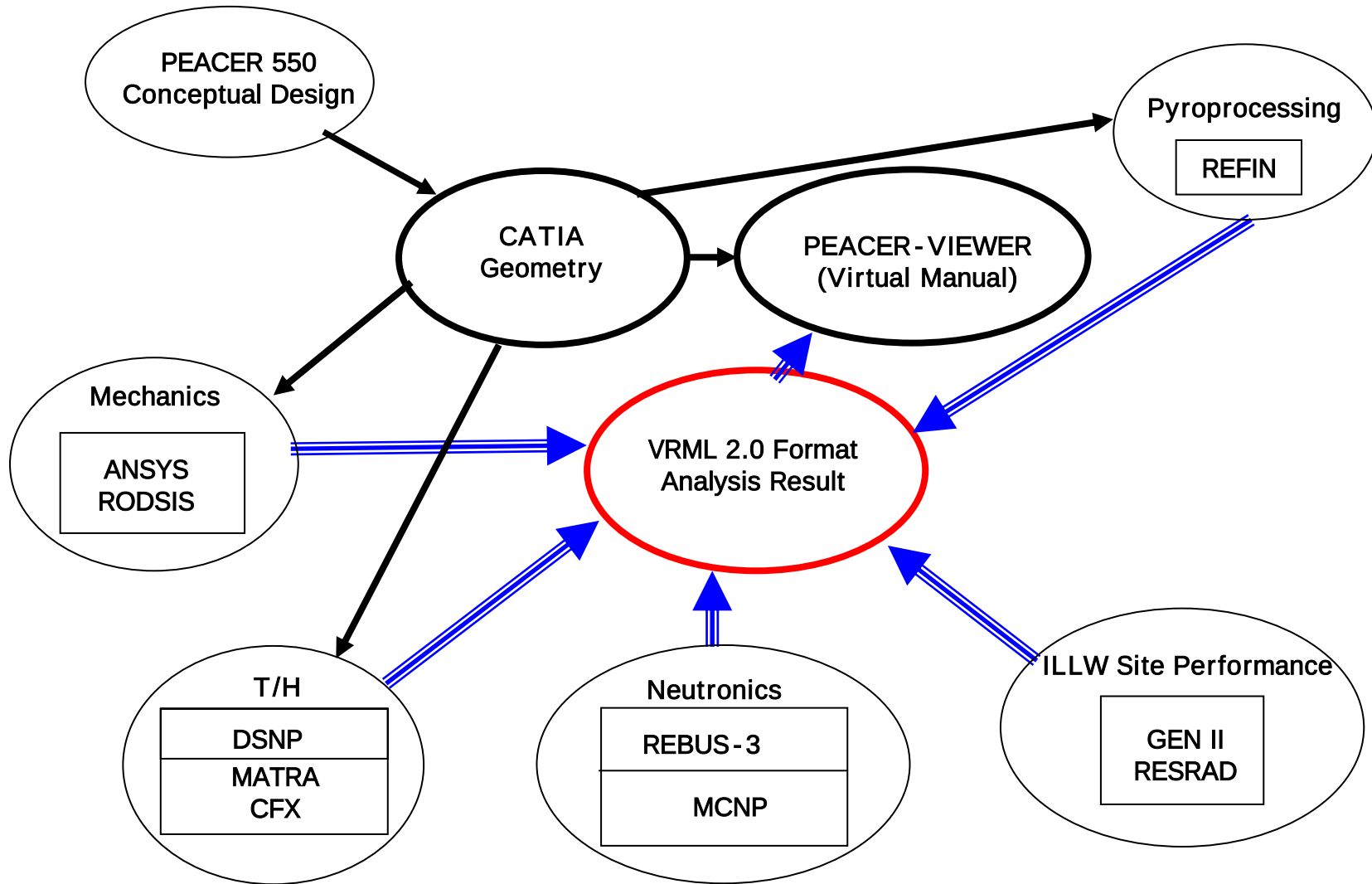
1. Solver - Interfaced Virtual Reality (SIVR)
2. PEACER - 550
3. HELIOS

- SIVR for PEACER
 - A Design System for PEACER
 - Managing of PEACER Design schedule
 - Open PEACER System for Proliferation - Resistance
 - PEACER Design Verification

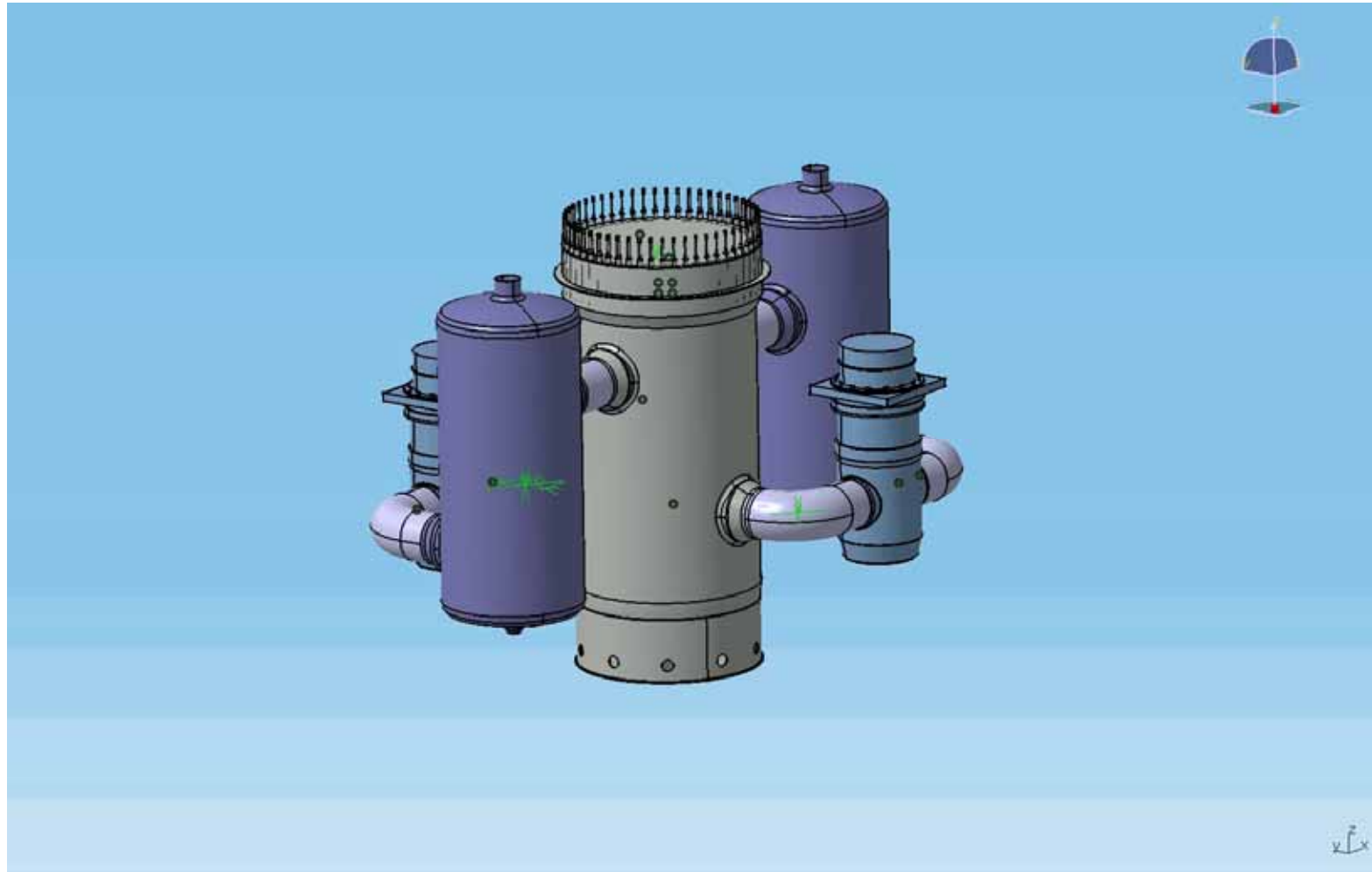
Solver - Interfaced Virtual Reality Diagram



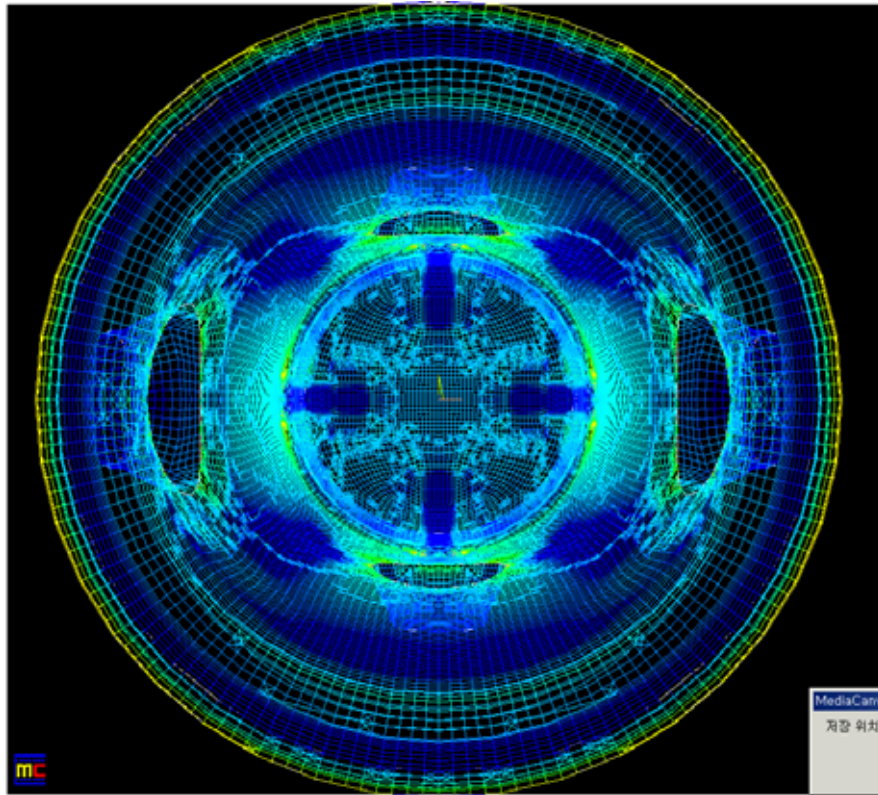
Solver - Interfaced 3D CAD and Virtual Reality (SIVR)



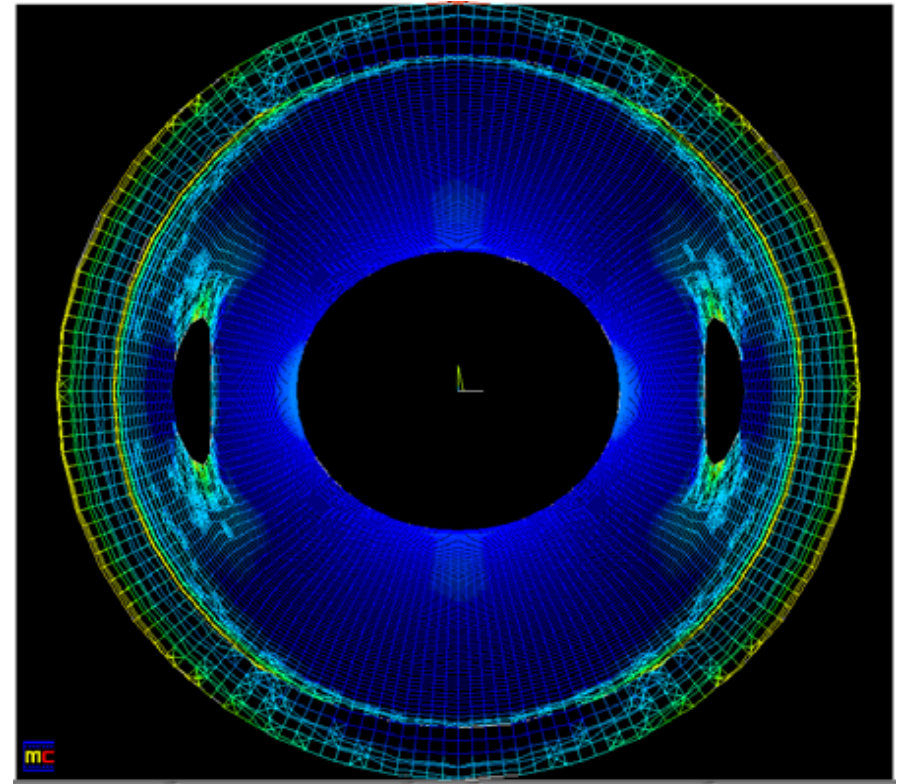
3D Design & Verification : PEACER-550



3D Design & Verification : PEACER-550

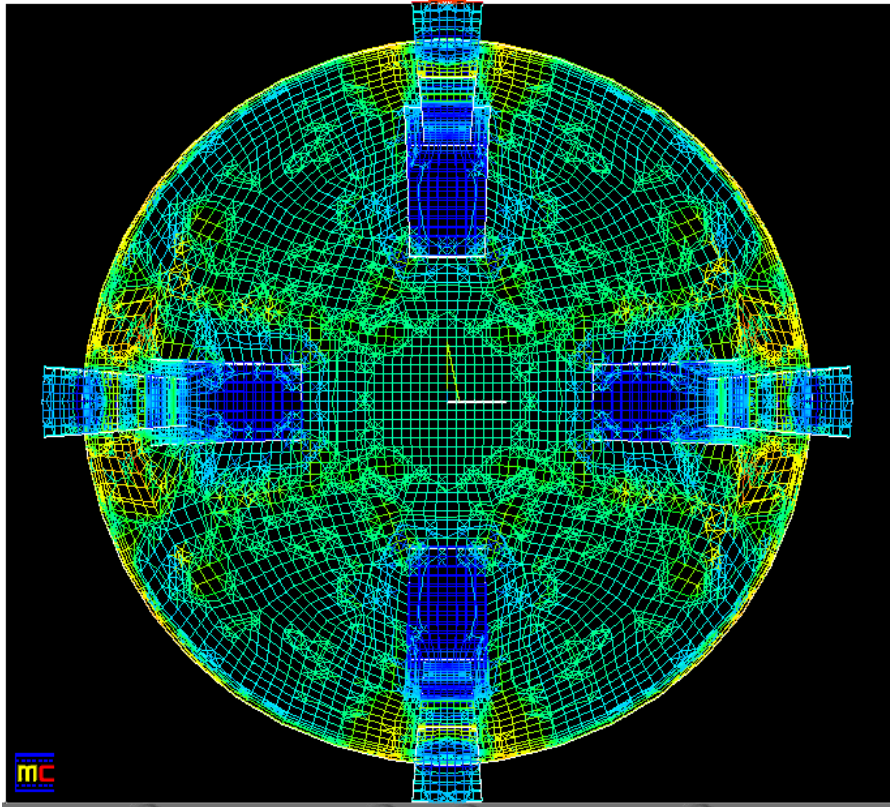


Body Top View : Stress

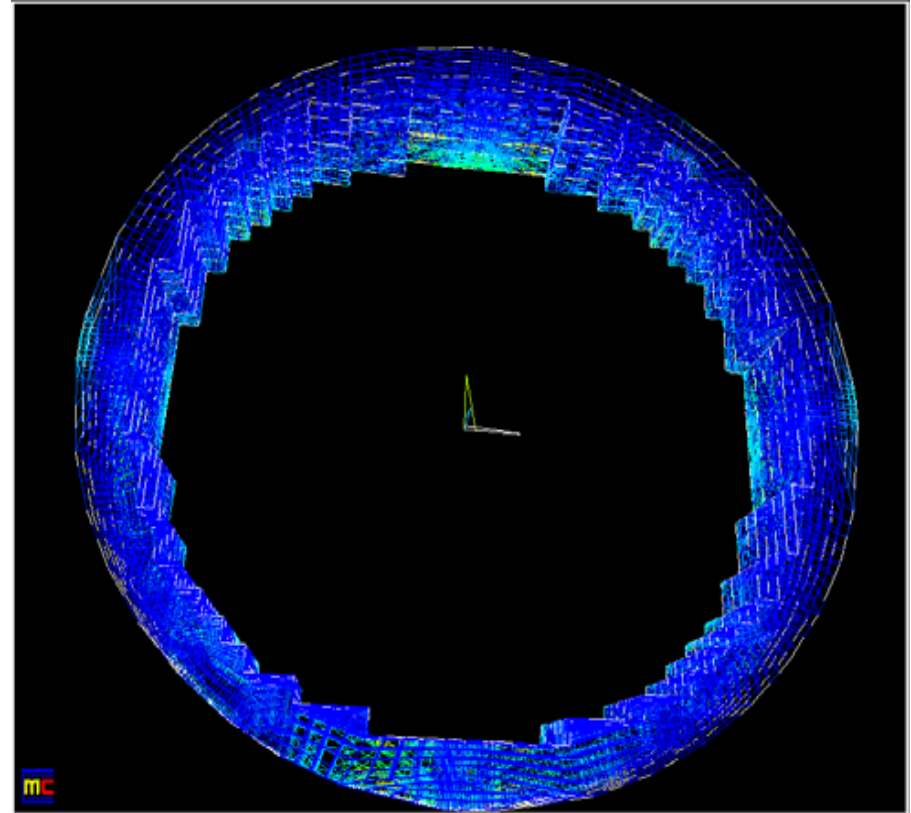


Barrel Top View : stress

3D Design & Verification : PEACER-550



Supporter Top View : Stress

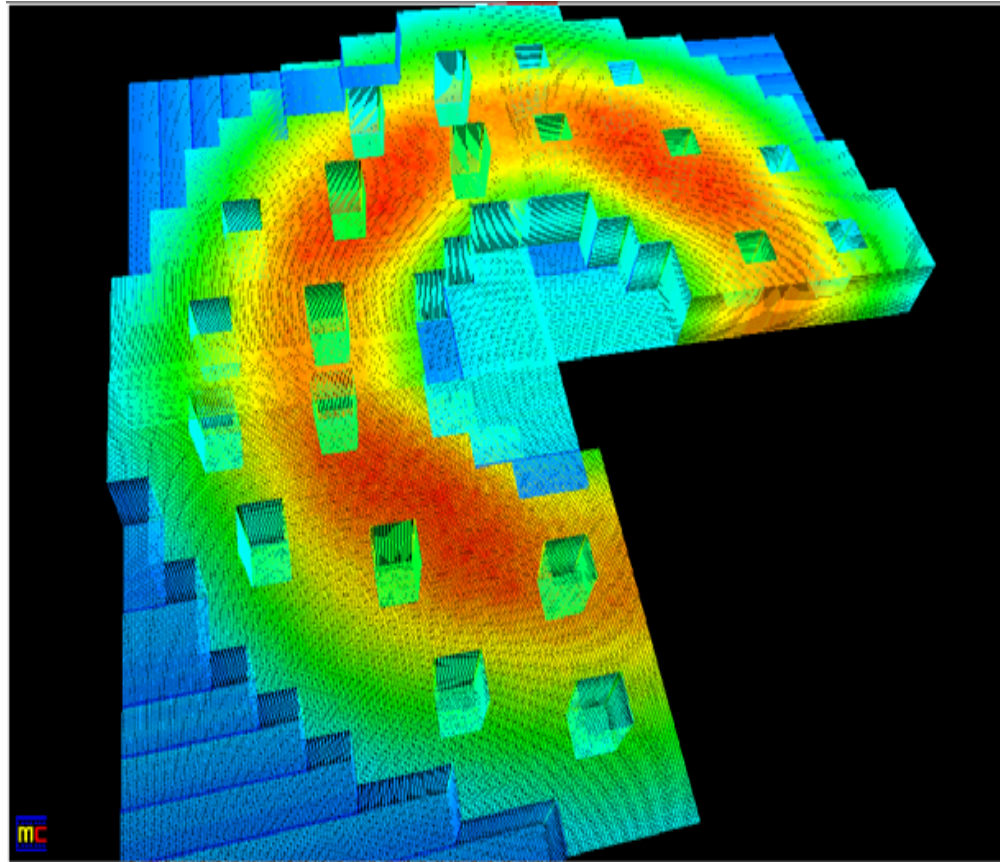


Baffle Top View : Stress

3D Design & Verification : PEACER-550

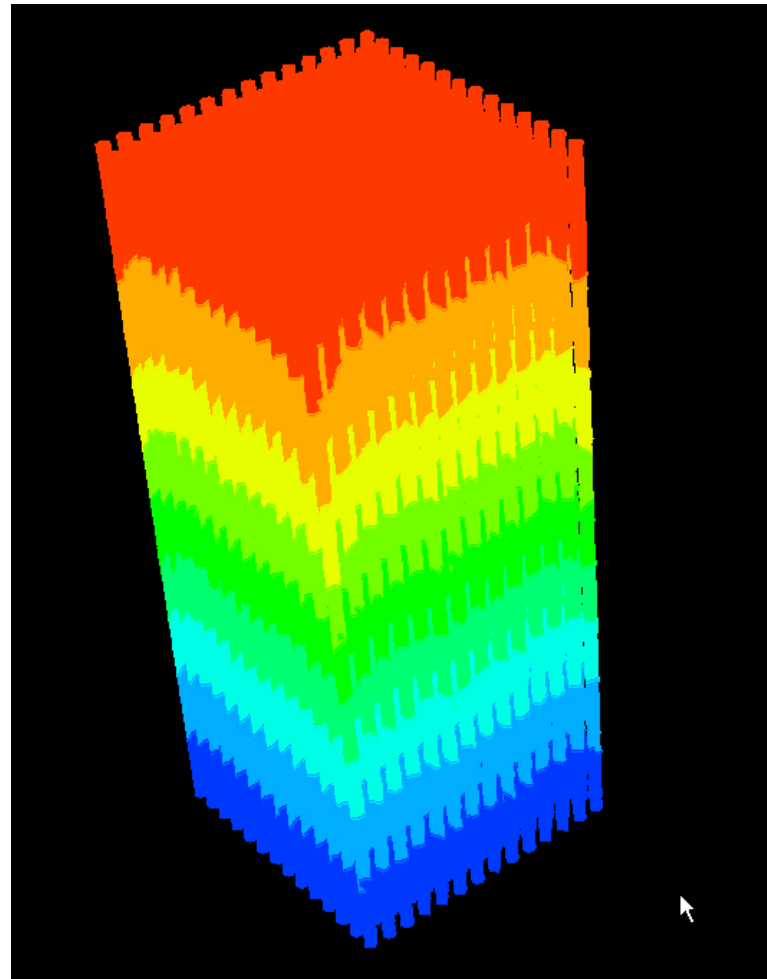
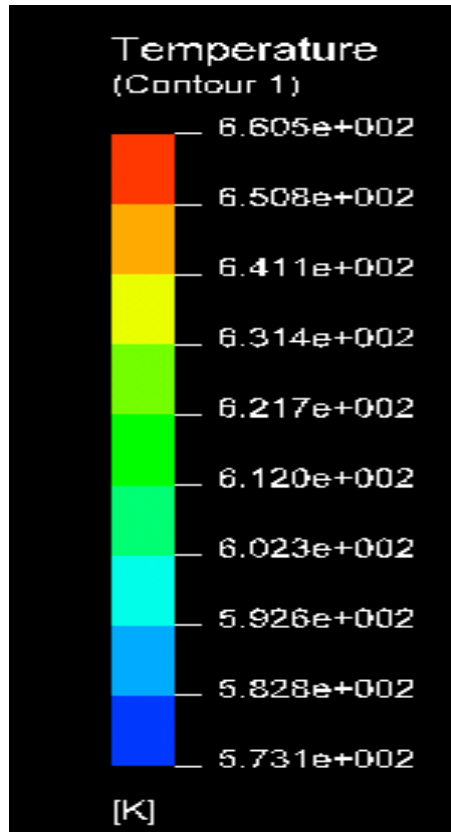


3D Design & Verification : PEACER-550



$\frac{3}{4}$ Core Power Distribution

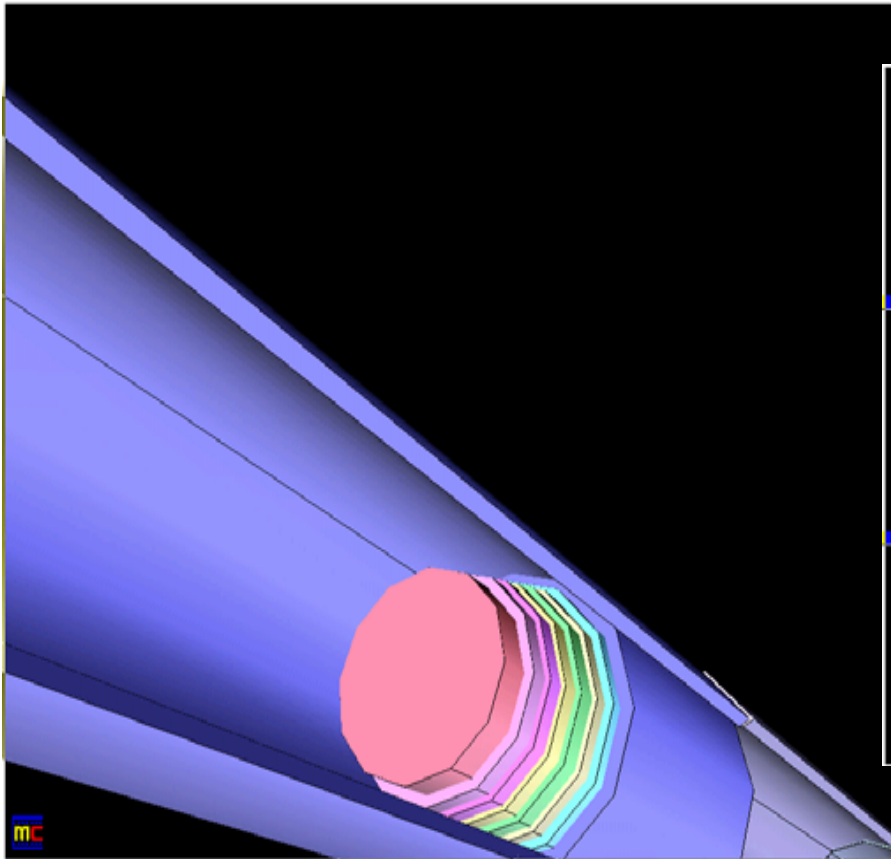
3D Design & Verification : PEACER-550



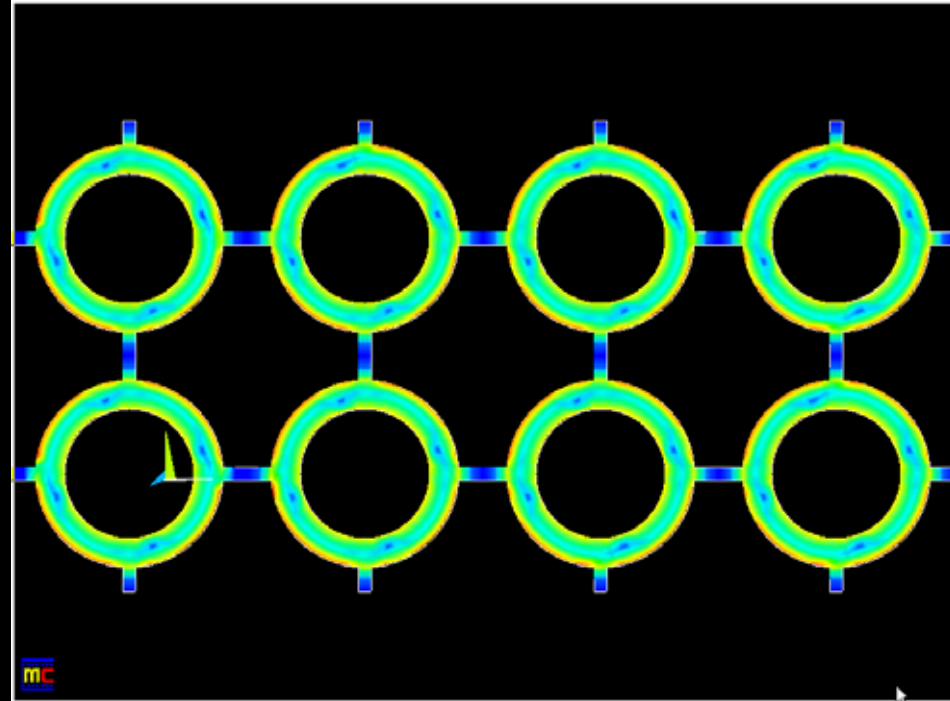
Coolant Temperature

3D Design & Verification : PEACER-550

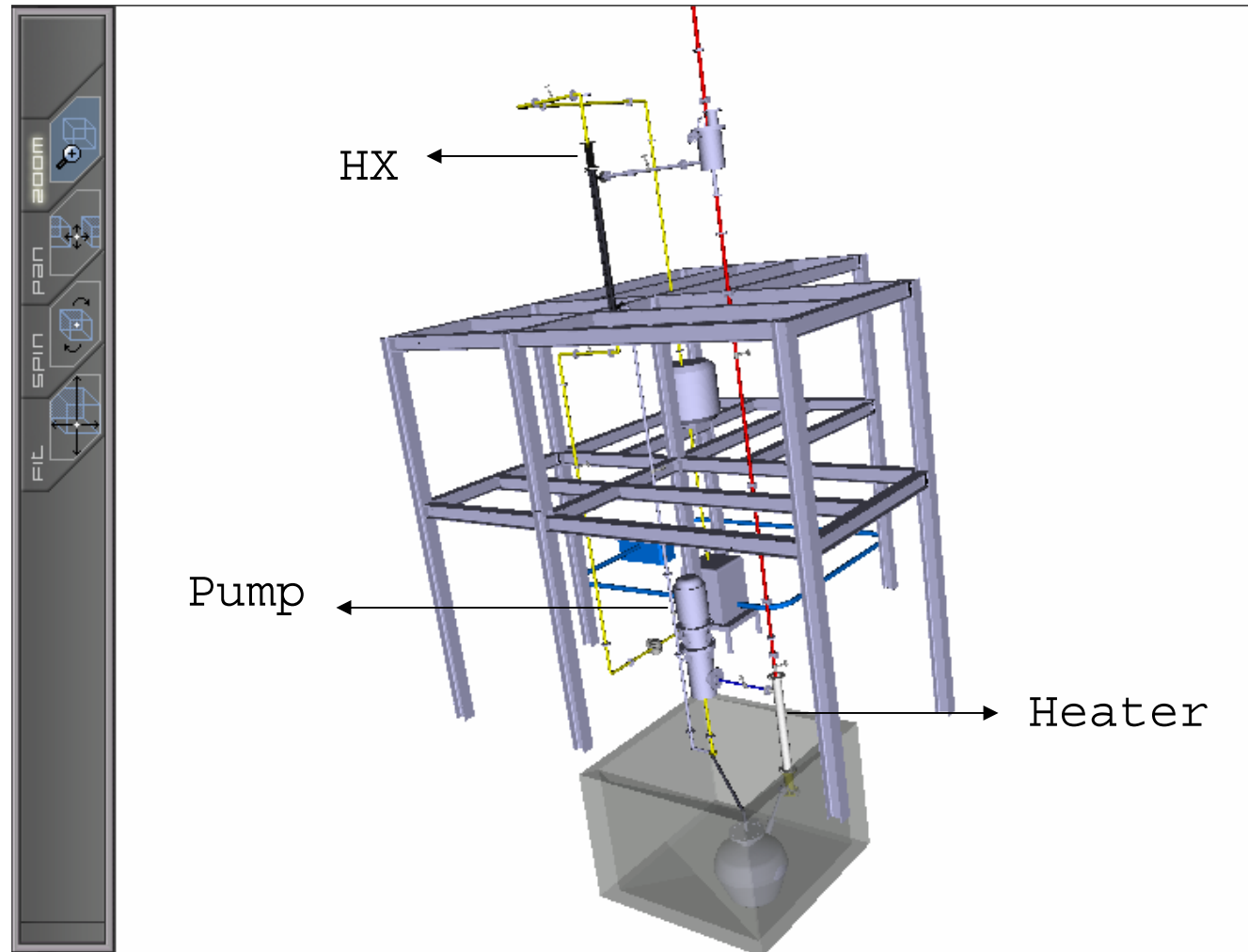
RODSIS (FUEL ROD Analysis)



Grid Plate Stress Analysis



Application : HELIOS - 3D Design



Application : HELIOS - Construction



Pump

Heater

HX



Application : 3D ANIMATION

1. CRDM / Refueling System
2. HELIOS 3D ANIMATION

NUTRECK at SNU



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